Distribution and predictors of footpad lesion scores in Danish organic and conventional broiler flocks

Lund, Vibe Pedersen; Christensen, Jens Peter; Nielsen, Liza Rosenbaum

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Vibe Pedersen Lund[1,2,*], Jens Peter Christensen[1] & Liza Rosenbaum Nielsen[2]

[1] Department of Veterinary Disease Biology, Faculty of Health and Medical Sciences, University of Copenhagen, 1870 Frederiksberg C, Denmark,

[2] Department of Large Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, 1870 Frederiksberg C, Denmark

* E-mail: vl@sund.ku.dk / vibepedersenlund@gmail.com

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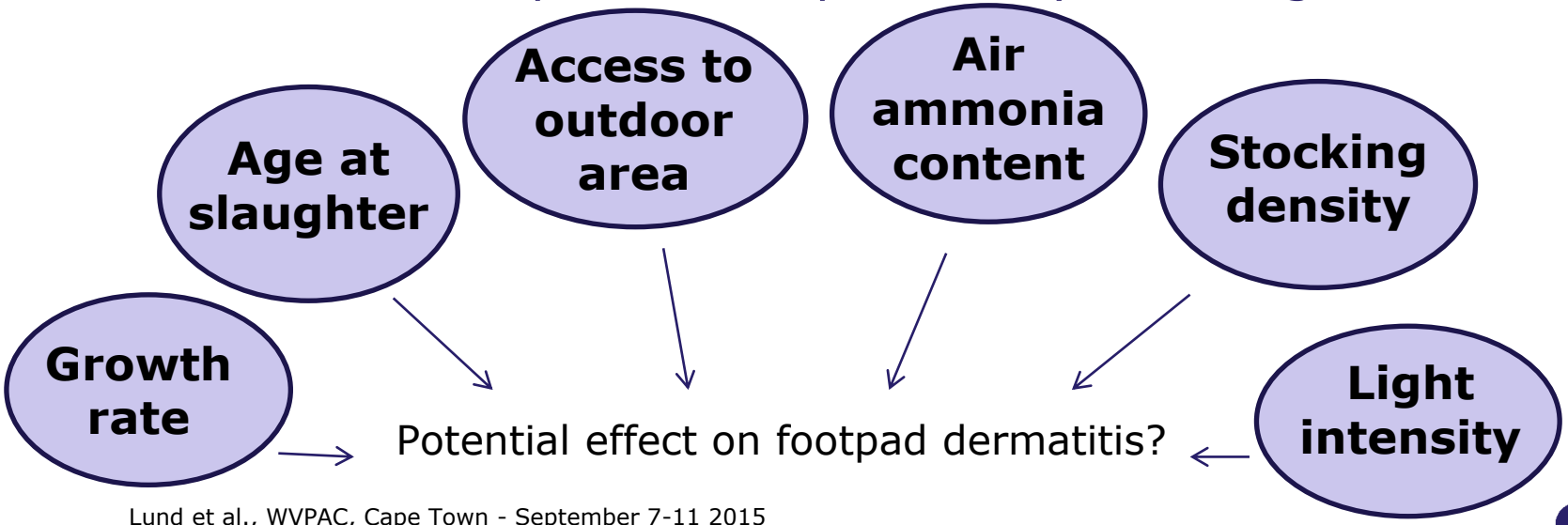
WHY STUDY FOOTPAD DERMATITIS (FPD)?

- Footpad dermatitis (FPD) as an indicator of on-farm broiler welfare
- Current organic market share = 0.5%
- FPD surveillance in Denmark since 2002
  - Same system for conventional and organic broiler flocks
- Fundamental differences between organic and conventional broiler production potentially affecting FPD:

The Danish FPD surveillance system:
2 x 50 feet per broiler flock
Score 0: No or very minor lesions
Score 1: Less severe lesions
Score 2: Severe lesions
FPD flock score = 0.5 * (number of feet scored 1) + 2 * (number of feet scored 2)



OBJECTIVE AND METHOD

- Objective:

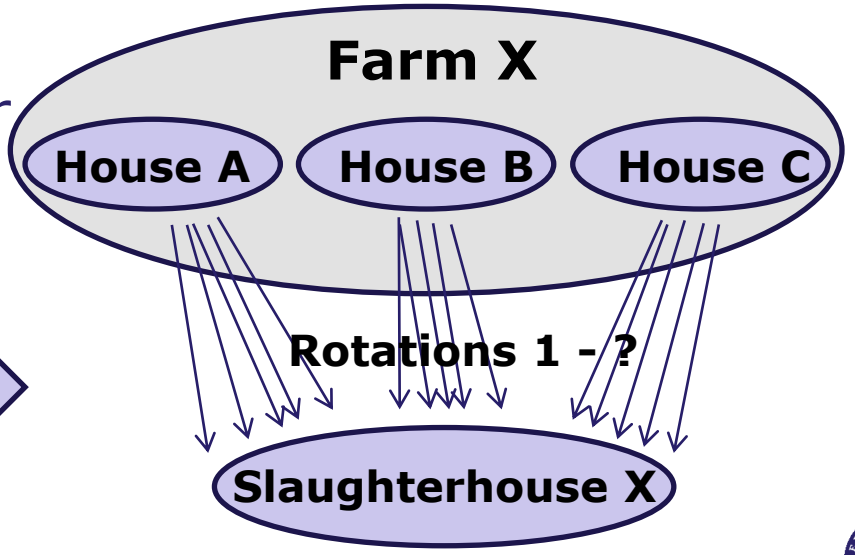
Investigation of the distribution of FPD scores and predictors in Danish organic and conventional broiler flocks

- Study population:

Danish organic (=302) and conventional (=11,628) broiler flocks processed in 2012-2014 (99.6% of Danish production)

- Data analysis:

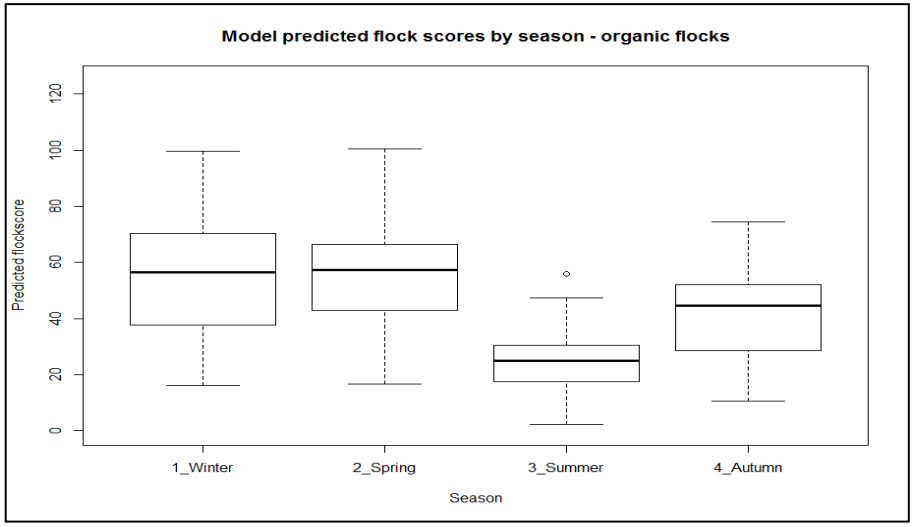
Multivariable generalised linear regression models taking the hierarchical structure of the Danish broiler industry into account

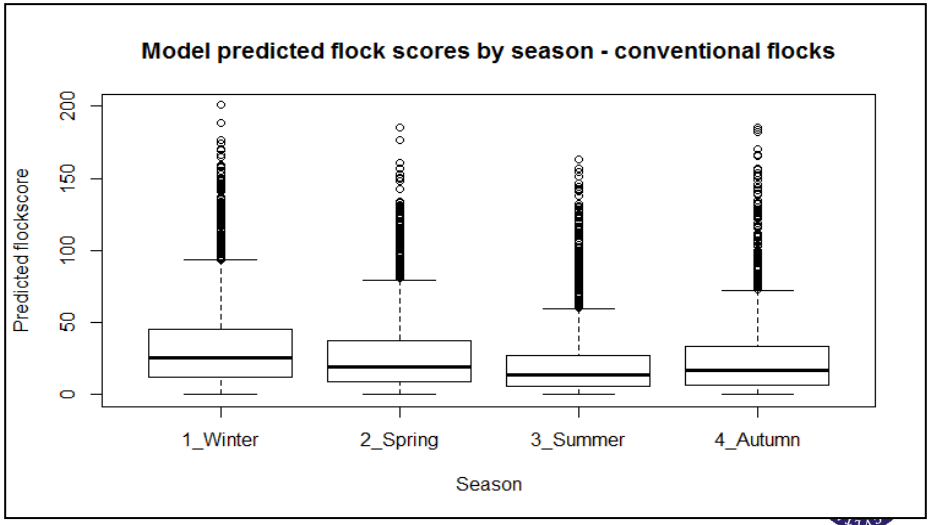


WHAT WERE THE RESULTS?

- Significantly higher FPD flock scores in organic versus conventional flocks
- Season was a major predictor – highest variation in organic flocks
- Other predictors:
  - Organic flocks: year,
  - Conventional flocks: year, age at slaughter, season within year

Average FPD flock score:





HOW CAN THE RESULTS BE INTERPRETED?

Evaluation of scoring system and sampling strategy

(Lund, V.P, Oliveira, A. R. S., Nielsen, L. R. & Christensen, J. P., 2015. Evaluation of the Danish surveillance of footpad lesions in organic and conventional broilers. Annual Meeting of the Society for Veterinary Epidemiology and Preventive Medicine (SVEPM), 25-27th March 2015, Ghent, Belgium)

- Risk of misclassification of FPD lesions may be higher in organic feet
- Sampling strategy can be improved

Possible directions for future research into risk factors

- Substantial farm variation suggests further investigations into characteristics of farms with recurring high FPD flock scores
- External factors potentially causing variation between flocks reared in the same house within farm, but in different rotations, need further investigation:

Dietary factors

Genetic factors

Management factors